APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/577,232	05/23/2000	Lundy Lewis	APB-022	3633

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EXAMINER
ENGLAND, DAVID E

ART UNIT	PAPER NUMBER
2143	

DATE MAILED: 06/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/577,232	LEWIS, LUNDY
	Examiner	Art Unit	
	David E. England	2143	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _23 February 2005_.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1 - 3, 6-30_ is/are pending in the application.

  4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-3 and 6-30_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

  Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

  Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

  a)☐ All   b)☐ Some * c)☐ None of:

    1.☐ Certified copies of the priority documents have been received.

    2.☐ Certified copies of the priority documents have been received in Application No. _____.

    3.☐ Copies of the certified copies of the priority documents have been received in this National Stage

      application from the International Bureau (PCT Rule 17.2(a)).

  * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

1.   Claims 1 – 3 and 6 – 30 are presented for examination.

Claim Rejections - 35 USC § 102

2.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United
> States before the invention thereof by the applicant for patent, or on an international application by another who
> has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention
> thereof by the applicant for patent.

3.   The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act

of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act

of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an

international application filed before November 29, 2000. Therefore, the prior art date of the

reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA

35 U.S.C. 102(e)).

4.   Claims 1, 6 – 9, 11 – 14, 17 – 20, 22 – 24, 26 and 28 are rejected under 35 U.S.C. 102(e)

as being anticipated by Glitho et al. U.S. Patent No. 6233449 (hereinafter Glitho).

5.   Referencing claim 1, as closely interpreted by the Examiner, Glitho teaches a method of

providing service level management in a network, wherein a service associated with the network

is composed of one or more network components and a business process associated with the

network is composed of the service, the service supports operation of the business process in

connection with the network, the method comprising the steps of:

6.   selecting one component parameter, the one component parameter providing an

indication of an operational characteristic of a selected network component, the selected network

component performing an operation in support of the service supporting the business process

under service level management in association with a service level management domain, (e.g.

col. 1, line 43 – col. 2, line 29);

7.   declaring a service parameter having a state representative of a measure of performance

of the service supporting the business process under service level management in association

with the service level management domain, the state having a value used to determine

conformity to an agreed upon service level, (e.g. col. 1, line 43 – col. 2, line 29 & col. 4, line 55

– col. 5, line 40);

8.   determining how the selected component parameter has an effect on the state of the

service parameter to provide service level management of the business process in association

with the service level management domain, (e.g. col. 1, line 43 – col. 2, line 29 & col. 4, line 55

– col. 5, line 40).

9.   Referencing claim 6, as closely interpreted by the Examiner, Glitho teaches the state

representative of the service associated with the selected one or more parameters represents at

least one of:

10.   a response time of a network resource;

11.   traffic congestion of a network resource, (e.g. col. 1, line 43 – col. 2, line 29 & col. 4, line

55 – col. 5, line 40);

12.   availability of a network resource;

13.   reliability of a network resource, (e.g. col. 1, line 43 – col. 2, line 29 & col. 4, line 55 –

col. 5, line 40);

14.   security of a network resource;

15.   performance of a network resource, (e.g. col. 1, line 43 – col. 2, line 29 & col. 4, line 55 –

col. 5, line 40); and

16.   configuration of a network resource.

17.   Referencing claim 7, as closely interpreted by the Examiner, Glitho teaches one of the

network components is associated with a network component monitoring agent of a network

management system, (e.g. col. 1, line 43 – col. 2, line 29 & col. 4, line 55 – col. 5, line 40).

18.   Referencing claim 8, as interpreted by the Examiner, Glitho teaches the step of

determining interfaces between one of the network components and the network component

monitoring agent, (e.g. col. 5, lines 12 – 54).

19.   Referencing claim 9, as closely interpreted by the Examiner, Glitho teaches a method of

implementing service level management associated with a service level management domain in a

network having one or more network entities addressable by the network to manage a service

supporting operation of a business process related to the network, the method comprising the

steps of,

20.   identifying a plurality of component parameters associated with the one or more network

entities, (e.g. col. 1, line 43 – col. 2, line 29 & col. 4, line 55 – col. 5, line 40);

21.   designating one of the plurality of component parameters a service parameter, the service

parameter providing an indication of a state of the service supporting a business process under

service level management in association with a service level management domain, (e.g. col. 1,

line 43 – col. 2, line 29 & col. 4, line 55 – col. 5, line 40); and

22.   determining from the service parameter a level of the service to manage the service in

order to provide service level management of the business process in association with the service

level management domain, the level of the service indicative of a measure of performance of the

service, (e.g. col. 1, line 43 – col. 2, line 29 & col. 4, line 55 – col. 5, line 40).

23.   Referencing claim 11, as closely interpreted by the Examiner, Glitho teaches the step of

managing the network based on the state of the service indicated by the service parameter, (e.g.

col. 1, line 43 – col. 2, line 29 & col. 4, line 55 – col. 5, line 40).

24.   Referencing claim 12, as closely interpreted by the Examiner, Glitho teaches the step of

instructing the one or more network entities addressable by the network to take an action based

on the state of the service indicated by the service parameter, (e.g. col. 1, line 43 – col. 2, line 29

& col. 4, line 55 – col. 5, line 40).

25.   Referencing claim 13, as closely interpreted by the Examiner, Glitho teaches the step of

interfacing with another management platform associated with the network to manage the service

associated with the network, (e.g. col. 1, line 43 – col. 2, line 29 & col. 4, line 55 – col. 5, line

40).

26.   Claims 14, 17 – 20, 22 – 24, 26 and 28 are rejected for similar reasons as stated above.

Claim Rejections - 35 USC § 103

27.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

28.   Claims 2, 3, 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Glitho (6233449) in view of Hunter (6449603).

29.   As per claim 2, Glitho does not specifically teach the step, representing how the

component parameter has an effect on the service parameters by one or more of:

30.   decision tree;

31.   propositional statement;

32.   quantified statement;

33.   weighted listing;

34.   graph.

35.   Hunter teaches the step, representing how the component parameter has an effect on the

service parameters by one or more of:

36.   decision tree;

37.   propositional statement;

38.   quantified statement;

39.   weighted listing;

40.   graph, (e.g. col. 1, line 9 – col. 2, line 64 & col. 7, line 60 – col. 8, line 48). It would have

been obvious to one of ordinary skill in the art at the time the invention was made to combine

Hunter with Glitho because it would be more efficient for a system to utilize types of algorithms

and/or statistical applications to train a system to predict outcomes of events utilizing what is

most likely to happen, (i.e. statistical data, example choosing a chores of action that happens

90% of the time rather then the action that happens 10% of the time).

41.   As per claim 3, Glitho does not specifically teach a process to determine how the

component parameter has an effect on the service parameters, the process comprising one or

more of:

42.   a data mining based process;

43.   a neural network based process;

44.   a machine learning based process;

45.   an ID3 derivative (iterative dichotomizing third) based process;

46.   an algorithm based process; and

47.   a selected statistical based process.

48.   Hunter teaches a process to determine how the component parameter has an effect on the

service parameters, the process comprising one or more of:

49.   a data mining based process;

50.   a neural network based process, (e.g. col. 1, line 9 – col. 2, line 64);

51.   a machine learning based process, (e.g. col. 1, line 9 – col. 2, line 64);

52.   an ID3 derivative (iterative dichotomizing third) based process;

53.   an algorithm based process, (e.g. col. 1, line 9 – col. 2, line 64); and

54.   a selected statistical based process, (e.g. col. 1, line 9 – col. 2, line 64). It would have

been obvious to one of ordinary skill in the art at the time the invention was made to combine

Hunter with Glitho because of similar reasons stated above.

55.   Claims 15 and 16 are rejected for similar reasons stated above.

56.   Claims 10 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Glitho

(6233449) in view of Hunter (6449603) in further view of Adriaans et al. (6311175) (hereinafter

Adriaans).

57.   As per claim 10, Glitho and Hunter teach all that is disclosed above, more specifically

Hunter teaches the use of parameters that have been process and selecting parameters randomly

from a list and reusing parameters that have been utilized in algorithms, (e.g. col. 6, line 20 – col.

8, line 44), but does not specifically teach storing the plurality of component parameters

associated with the one or more network entities in a storage device; and

58.   taking an action using the stored component parameters to determine how the plurality of

component parameters affect the service parameter to manage the service associated with the

network. Adriaans teaches storing the plurality of component parameters associated with the one

or more network entities in a storage device, (e.g. col. 5, lines 1 – 47, *"database"* & col. 6, line

31 – col. 7, line 16); and

59.   taking an action using the stored component parameters to determine how the plurality of

component parameters affect the service parameter to manage the service associated with the

network, (e.g. col. 5, lines 1 – 47, *"this information may them be used in a number of ways,*

including trend analysis, performance optimization, and monitor optimization." & col. 6, line 31

– col. 7, line 16). It would have been obvious to one of ordinary skill in the art at the time the

invention was conceived to combine Adriaans with the combine system of Glitho and Hunter

because saving parameters enables the system to access information to learn trends in a system

and become more efficient in processing data. These learning techniques enable the management

environment to better adapt itself to the system being managed. Accordingly, once additional

information becomes available about the system, better management of the system environment

is possible. Further information will then be collected and stored so that the learning process

continues. In fact, the entire monitoring, learning, and adapting process provided by the system

and method of the present invention is continuous and iterative.

60.   Claim 21 is rejected for similar reasons as stated above.

61.   Claims 25, 27, 29 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Glitho (6233449) in view of Yemini et al. (6249755) (hereinafter Yemini).

62.   As per claim 25, as closely interpreted by the Examiner, Glitho does not specifically

teach the service level management domain comprises a plurality of management applications

integrated into a hierarchical structure having a plurality of layers. Yemini teaches the service

level management domain comprises a plurality of management applications integrated into a

hierarchical structure having a plurality of layers, (e.g. col. 2, lines 6 – 46 & col. 7, lines 8 – 60).

It would have been obvious to one of ordinary skill in the art at the time the invention was

conceived to combine Glitho with Yemini because it would be advantageous for a system to

have a type of monitoring agent on more then one layer of the OSI network model to monitor

information that other layers are incapable of monitoring.

63.   Claims 27, 29 and 30 are rejected for similar reasons as stated above.

Response to Arguments

64.   Applicant's arguments filed 02/23/2005 have been fully considered but they are not

persuasive.

65.   In the Remarks, Applicant argues in substance that Glitho does not disclose a method for

determining how a selected component parameter has an effect on the state of service parameter

to providing service level management of the business process in association with the service

level management domain.

66.   At to part 1, Examiner would like to draw the Applicant's attention to interpretations of

the definitions of SLA, SLM and the interpretations of these definitions and SLM domain and

how they apply to the prior art. A service level agreement, (SLA), is a contract between a

supplier and a customer that identifies services supported by a network, service parameters for

each service, service levels for each service parameter, and (optionally) penalties/ rewards on the

part of the supplier and/or customer when service levels are not met or exceeded. The definition

taught by the Applicant can also read on the implementation of quality of service, (QoS),

described by Glitho along with managing the QoS of a system in a Domain, *"In one aspect, the*

present invention is an operation and maintenance control point (OMCP) in a

telecommunications network having a plurality of network elements that report to the OMCP

and a network management system (NMS) to which the OMCP reports. The OMCP comprises a

performance <u>monitoring function that monitors performance of the network elements and</u>

<u>determines quality of service (QoS) in the network</u>, a trouble sniffer that receives performance

and QoS data from the performance monitoring function and detects faults within the network,

and <u>an action proposal agent that receives performance and QoS data from the performance</u>

<u>monitoring function and fault data from the trouble sniffer, and provides suggested corrective</u>

<u>actions to the NMS</u>."

67.   Service level management (SLM) is the identification and monitoring of service level

parameters. This is also apparent in the above quote as to the monitoring and identification of

service level in the system. This will also be described below.

68.   As for determining how the selected component parameter has an effect on the state of

the service parameter Applicant is asked to view the cited areas of the prior art, in which it is

stated in Glitho that,

69.   "*The suspected cause of the QoS degradation is then sent from the TS 37 to the APA 38,*

(what could be interpreted as a component parameter has an effect on a state of service parameter

which is part of a SLA or quality of service that is being upheld). *The APA analyzes the*

suspected cause of the problem, and determines suggested corrective actions which are then sent

to the NMS 21. The suggested corrective actions may include, but are not limited to proposals

for, (what could be interpreted as service parameters to provide service level management of a

business process in a service level management domain):

70.   *Link performance (e.g., more/fewer links needed);*

71.   *Cell performance (e.g., change parameter settings, change frequencies);*

72.   *Hardware performance (e.g., more hardware needed, efficiency of hardware*

73.   *utilization, hardware out of order);*

74.   *System performance (e.g., more cells needed, load sharing efficiency);*

75.   *Mobile station performance (considering specific MS types);*

76.   *Remedy for a fault situation; and*

77.   *Configuration changes in the network.*

78.   *In a simulation block 39, the NMS may run multiple simulations to predict what the*

results would be if the suggested corrective actions are executed in the network. If the NMS's

predictions are unacceptable, feedback is sent to the APA 38 which modifies its suggested

corrective actions based on the feedback from the NMS. If the NMS's predictions are

acceptable, <u>the suggested corrective actions are then executed by an execution function 41,</u>

<u>*either manually or automatically*</u>*,* (management of the quality being utilized to ensure that the

quality of service is staying at a level that is guaranteed). *Areas suitable for automatic execution*

include frequency reallocations, temporary traffic load sharing, etc. Following execution of the

suggested actions, data is collected regarding the actual results of the actions in the network. A

feedback function 42 in the NMS 21 then sends feedback to the APA 38 in the OMCP 31

regarding the actual results of executing the suggested corrective actions. The feedback includes

trend analyses and a comparison of before and after results, both in the changed area and for

total system performance, (reporting information to the system so that the SLM domain or

OMCP will be functioning properly).

79.   *If the results are not acceptable, the APA 38 may send additional suggested corrective*

actions to the NMS 21, utilizing the experience acquired from the results of the first actions. If

the problem is corrected, then the OMCP passes NE reports directly to the NMS since no

corrective action is required.

80.   *The above process is a continuous ongoing process. It should also be noted that while*

the first illustrated step (preprocessing of raw data) takes only a few seconds, the final steps

involve more lengthy measurements and trend analysis of the data, and may take several hours

or days to complete."

81.   Therefore, Glitho still teaches Applicant's invention as broadly interpreted by the claim

language by Examiner.

82.   In the Remarks, Applicant argues in substance that Glitho does not disclose a method for

determining from the service parameter a level of service to manage the service in order to

provide service level management of the business process in association with the service level

management domain.

83.   As to part 2, Examiner would like the draw the Applicant's attention to the above

rejection and response to arguments, for the same logic and reasoning applies to part 2.

84.   In the Remarks, Applicant argues in substance Hunter does not teach or suggest

providing service level management of a business process in association with a service level

management domain.

85.   As to part 3, Examiner would like to point out the Applicant that Hunter was not used to

teach the limitation described above. Therefore, argument is moot in view of the Response to

Applicant's Arguments disclosed in part 1.

86.   In the Remarks, Applicant argues in substance nowhere in Glitho or Hunter is there a

motivation to combine the teachings of a network element management apparatus with the

teachings of a method for training paired learning agent.

87.   As to part 4, Applicant's arguments fail to comply with 37 CFR 1.111(b) because they

amount to a general allegation that the claims define a patentable invention without specifically

pointing out how the language of the claims patentably distinguishes them from the references.

88.   In the Remarks, Applicant argues in substance that Adriaans does not teach or suggest

providing service level management of a business process in association with a service level

management domain.

89.   As to part 5, Examiner would like to point out the Applicant that Adriaans was not used

to teach the limitation described above. Therefore, argument is moot in view of the Response to

Applicant's Arguments disclosed in part 1.

90.   In the Remarks, Applicant argues in substance Yemini does not teach or suggest

providing service level management of a business process in association with a service level

management domain.

91.   As to part 6, Examiner would like to point out the Applicant that Yemini was not used to

teach the limitation described above. Therefore, argument is moot in view of the Response to

Applicant's Arguments disclosed in part 1.

Conclusion

92.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.
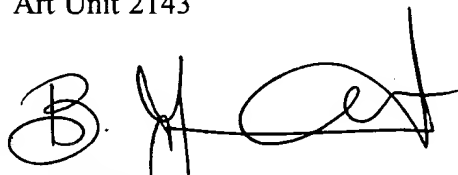
Any inquiry concerning this communication or earlier communications from the examiner should be directed to David E. England whose telephone number is 571-272-3912. The examiner can normally be reached on Mon-Thur, 7:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David A. Wiley can be reached on 571-272-3923. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

David E. England
Examiner
Art Unit 2143

De

BUNJOB JAROENCHONWANIT
PRIMARY EXAMINER